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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,844	10/30/2003	Gongling Li	286752.123	9293
23483	7590	03/09/2005	EXAMINER	
WILMER CUTLER PICKERING HALE AND DORR LLP 60 STATE STREET BOSTON, MA 02109			GARTENBERG, EHUD	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/697,844	LI, GONGLING	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ehud Gartenberg	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 October 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) 1,12 and 16 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/30/2003</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Objections***

1. The following claims are objected to because of the following informalities (typographical errors):

Claim 1, l. 1, "plum"; Claim 12, l. 7, "ay", Claim 16, l. 3, "from of the".

Appropriate correction is required. Applicant is also required to thoroughly review the application for possible additional errors that were not detected by the Examiner.

### ***Claim Rejections - 35 USC § 102 / 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-7 and 16-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brice US2004/0237501 A1 that was previously published on 11 April 2002 as WO 02/29232 A1 (the present application was filed in the US on 10/30/2003 with no foreign priority claimed). For

convenience, the location citations will be made with reference to the US pre-grant publication. Brice teaches in Fig. 1C the claimed invention as disclosed and as claimed: an air ejection system and its method of use that discharged air, see "Air Injection", from an exhaust end of a turbine end during operation to pierce the exhaust of the exhaust plume. Regarding the claimed limitation "wherein the output port is located adjacent to and outside of the exhaust end", Brice's ports being at the trailing edges of the core air and fan air of the housings of the engine, they were adjacent to and outside the exhaust end, the "exhaust end" being the hollow cross sectional areas (annulii) of the plume/exhaust channels. In other words, as long as the air injection ports did not obstruct the flow area of the plume, they are outside the exhaust end. The piercing of the core is taught on paragraph 0034. The fluid control valve is shown in Fig. 3, its operation shown in Fig. 7 and Fig. 8, see also its use described on p. 2, col. 2, II. 10-12, and paragraphs 0045 and 0046. The compressed air received from the turbine, or the compressor, or a pressurized container is taught on p. 2, col. 2, II. 13-16 ("bleed air or diverted core air or air from a pressurized storage container"). Paragraph 0054 teaches that the injected flow was 0.22 lb/sec into a total plume flow of 11 lb/sec (2% < the claimed 4%). The injection angles covering the claimed 30 to 90 degrees relative to the longitudinal axis are taught in paragraph 0035 "the angle of penetration may be varied from streamwise with the flow to streamwise against the flow".

5. Claims 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brison for reasons discussed above and further because: 1) optimizing the shape of the output port in form of a convergent or convergent/divergent nozzle to produce a

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subsonic or a supersonic flow respectively would have been an obvious optimization in view of the level of skill in the art at the time of the claimed invention; 2) selecting a commercially-available type of valve for its stated and intended purpose would have been a routine optimization of the design in view of the level of skill in the art. Claims 12-15 are rejected in view of the Official Notice taken that all the claimed parts (a compressor, a combustor, a turbine, an exhaust, an afterburner, and an adjustable nozzle) were standard and conventionally used parts and components of turbine engines that were old and known in the art at the time of the claimed invention.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Dorris 6308898 (could be used as an alternate prior art reference for rejection purposes), Motsinger 3527317, English 2826895, Avery 2853854, Catt 6112513, Hunter US2003/0145577.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ehud Gartenberg whose telephone number is 571 272 4828. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571 272 4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ehud Gartenberg  
Primary Examiner  
Art Unit 3746

03022005